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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/721,183	11/22/2000	Susana Salceda	DEX-0117	1493
32800	7590	01/04/2006		
LICATA & TYRRELL P.C. 66 E. MAIN STREET MARLTON, NJ 08053			EXAMINER CANELLA, KAREN A	
			ART UNIT	PAPER NUMBER
			1643	

DATE MAILED: 01/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/721,183

Applicant(s)

SALCEDA ET AL.

Examiner

Karen A. Canella

Art Unit

1643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 3-7 and 18-37 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) 3-7 and 18-37 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>March 11, 2004</u> . | 6) <input checked="" type="checkbox"/> Other: <u>attachment A and B</u> . |

DETAILED ACTION

1. After review and reconsideration, the Finality of the previous Office action is withdrawn in light of the rejections below.
2. Claims 3-7 have been amended. Claims 3-7 and 18-37 are pending and under consideration.
3. Text of Title 35, U.S. Code, not found in this action can be found in a prior action.
4. Acknowledgement is made of applicants claim to an earlier effective filing date through application 60/166,973. Upon review of the '973 application it is noted that said application describes the instant SEQ ID NO:1, 2, 4 and 5 but lacks a written description for SEQ ID NO:18. Accordingly, method claims reliant upon the genus of polynucleotides including SEQ ID NO:18 will be given priority only to the instant filing date of November 22, 2000.
5. Claims 3-7 and 18-37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3-7 recite the limitation of a polynucleotide which hybridizes under stringent conditions. The recitation of "stringent" conditions does not define the metes and bounds of the physical parameters of the hybridization conditions because "stringent" conditions encompass low, moderate and high stringency. Thus the metes and bounds of the least stringent condition is not defined by the claim and the specification does not provide a definition for stringent hybridization which would set the physical parameters of the hybridization conditions.
6. Claims 3-7 and 18-37 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

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The instant method claims are reliant upon the identity of a polynucleotide which hybridizes under undefined conditions to the anti-sense sequence of SEQ ID NO:1, 2, 4, 5 or 18. The specification lacks a definition for "stringent conditions" that would limit the physical parameters of the hybridization, thus the instant claims encompass a genus of polynucleotides which are not limited by sequence similarity to SEQ ID NO:1, 2, 4, 5 or 18. The disclosure of SEQ ID NO:1, 2, 4, 5 and 18 fails to anticipate the claimed genus because the genus tolerates members which differ in structure from SEQ ID NO:1, 2, 4, 5 and 18 and which encode proteins which have a different function from the of the proteins encoded by SEQ ID NO:1, 2, 4, 5 and 18. One of skill in the art would reasonably conclude that applicant was not in possession of the genus of polynucleotides which hybridize to the anti-sense of SEQ ID NO:1, 2, 4, 5 or 18 under any condition of stringency. It logically follows that if applicant was not in possession of the genus of polynucleotides upon which the instant method claims rely, then applicant was not in possession of the instant methods.

7. Claims 3-7 are rejected under 35 U.S.C. 102(e) as being anticipated by Sun et al (US 2003/0175715, priority to October 27, 2000).

Claim 3 is drawn in part to a method for diagnosing the presence of breast cancer in a patient comprising determining the level of a BCSG polynucleotide comprising a polynucleotide which hybridizes under stringent conditions to the anti-sense sequence of SEQ ID NO:4, wherein an increase in the level of said polynucleotide versus a normal human controls is associated with the presence of breast cancer. Claim 4 is drawn in part to a method of diagnosing metastases of breast cancer in a patient and claim 6 is drawn in part to a method of monitoring breast cancer in a patient for the onset of metastasis, both methods comprising identifying a patient having breast cancer that is not known to have metastasized and determining the level of a BCSG polynucleotide in a sample of cells, tissue or bodily fluids from said patient, wherein the BCSG polynucleotide is a polynucleotide which hybridizes under stringent conditions to the anti-sense sequence of SEQ ID NO:4, wherein an increase in the level of said polynucleotide versus a normal human controls is associated with metastatic breast cancer. Claim 5 is drawn in part to a method of staging breast cancer in a patient having breast cancer and claim 7 is drawn in part to a method of monitoring a change in stage of breast cancer in a patient, both methods comprising

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identifying a patient having breast cancer and determining the level of a BCSG polynucleotide levels in a sample of cells, tissue or bodily fluids from said patient, wherein the BCSG polynucleotide is a polynucleotide which hybridizes under stringent conditions to the anti-sense sequence of SEQ ID NO:4, wherein an increase in the level of said polynucleotide versus a normal human controls is associated with breast cancer which is progressing and a decrease is associated with breast cancer which is regressing or in remission.

Sun et al disclose a method of detecting breast cancer, metastasis of breast cancer and a method of staging breast cancer, all methods comprising determining the level of a polynucleotide which hybridizes to a BCG gene. Sun et al disclose that a BCG gene includes SEQ ID NO:35 which would hybridize to the instant SEQ ID NO:4 (paragraphs 0019, 0357, 0364). SEQ ID NO:35 is 99.7% identical to the instant SEQ ID NO:4.

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claim 4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jager et al (US 6,774,226) in view of Putnam, ('Metastatic Cancer to the Lung', In: Cancer, Principles and Practice of Oncology, DeVita et al, Eds, 1993, Vol. 2, pp. 2678-2679).

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Claim 4 is drawn in part to a method of diagnosing metastases of breast cancer in a patient and claim 6 is drawn in part to a method of monitoring breast cancer in a patient for the onset of metastasis, both methods comprising identifying a patient having breast cancer that is not known to have metastasized and determining the level of a BCSG polynucleotide in a sample of cells, tissue or bodily fluids from said patient, wherein the BCSG polynucleotide is a polynucleotide which hybridizes under stringent conditions to the anti-sense sequence of SEQ ID NO:5, wherein an increase in the level of said polynucleotide versus a normal human controls is associated with metastatic breast cancer.

Jager et al teach the polynucleotide of SEQ ID NO:15 is present in a breast cancer cDNA library (column 8, lines 9-18). Jager et al teach that 16 of 25 breast cancer samples were strongly positive for SEQ ID NO:15, and 3 additional samples were weakly positive (column 8, lines 38-40). Jager et al teach that expression of SEQ ID NO:15 was not found in normal brain, kidney, liver, colon, adrenal, fetal brain, lung, pancreas, prostate, thymus, uterus, and ovary tissue (column 8, lines 30-32). Jager et al teach that SEQ ID NO:15 was strongly expressed in breast tissue (column 8, lines 28-29, thus Jager et al fails to teach the detection of breast cancer within the breast itself as Jager et al does not provide a contrast in the expression of SEQ ID NO:15 from breast cancer cells versus normal breast cells. However, Jager et al teach a contrast in the expression of SEQ ID NO:15 in breast tumor tissue and normal brain, kidney, liver, colon, adrenal, fetal brain, lung, pancreas, prostate, thymus, uterus, and ovary.

Putnam teaches that breast cancer metastasizes to the bone, lung, brain and liver.

It would have been prima facie obvious at the time the claimed invention was made to detect the polynucleotide of SEQ ID NO:15 in the lung, brain or liver as a means of detecting metastatic breast cancer in lung, brain or liver. One of skill in the art would have been motivated to do so by the teachings of Putnam who identifies these sites for breast metastases and the teachings of Jager et al on the lack of expression of SEQ ID NO:15 in normal brain, liver or lung. SEQ ID NO:15 fulfills the specific embodiment of hybridizing to the instant SEQ ID NO:5 because SEQ ID NO:15 is 93.3% similar to SEQ ID NO:5.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karen A. Canella whose telephone number is (571)272-0828. The examiner can normally be reached on 11 am to 10 pm, except Wed, Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Helms can be reached on (571)272-0832. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Karen A. Canella, Ph.D.

12/27/2005


KAREN A. CANELLA PH.D.
PRIMARY EXAMINER

466	Db	CGAGAACCGAGTTTAGGTCTCAGGTTCTCGTTCTGGCAAACTTTCTCTCTTACCTTCTTCC	525
61	Qy	TCCACCCCTCCACCTATGCCATGTTTTCCCTTAGCCATCCCCAGCTCGGTGGAGAAAG	120
526	Db	TCCACCCCTCCACCTATGCCATGTTTTCCCTTAGCCATCCCCAGCTCGGTGGAGAAAG	585
121	Qy	CGAGGCCTTAAGTACGTTACCGTCTTCCCGACTTTTGGTCAATGATAGCTGGGTGGGTCTAGC	180
586	Db	CGAGGCCTTAAGTACGTTACCGTCTTCCCGACTTTTGGTCAATGATAGCTGGGTGGGTCTAGC	645
181	Qy	TGGGTTCCAGGCACCTTGTAAATGTGGGACATCTCTCACCCCAACTTTTGTAGGTGGAGCAAC	240
646	Db	TGGGTTCCAGGCACCTTGTAAATGTGGGACATCTCTCACCCCAACTTTTGTAGGTGGAGCAAC	705
241	Qy	TGCTACAGAGGTAAATGATTAATCTTTPACAATCCATCTTTCGTCTGCTCCCAACTTAA	300
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301	Qy	CAGCAGGTAACTCGCTTCTAGCAAGTGGTGAAGCTTAAGAGAGCATCTGTATAGGAGCA	360
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361	Qy	AGAGATCTGAGTCCCTTTTGAAGGCTATCCCTCTGCTCTGTATCTCAATCTGTTCTTCA	420
826	Db	AGAGATCTGAGTCCCTTTTGAAGGCTATCCCTCTGCTCTGTATCTCAATCTGTTCTTCA	885
421	Qy	TTTCAAATTAATCTTACCTACTATTCAGTTCCTTTCGATCTTTTCTTTGGGGGTGTCTT	480
886	Db	TTTGAATTAATCTTACCTACTATTCAGTTCCTTTCGATCTTTTCTTTGGGGGTGTCTT	945
481	Qy	AGGTCAGGGAGATTCAGAGCACCAAGACTAGGAGCAGCCCTGAGACATGGGGAGTTG	540
946	Db	AGGTCAGGGAGATTCAGAGCACCAAGACTAGGAGCAGCCCTGAGACATGGGGAGTTG	1005
541	Qy	GAGCTGAAGGAGGAATGGCAGGATGAAGAATTTCCCTAGGTGAGGACGTGTGAGGGTGGCT	600
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1066	Db	GGGAGAAAGGAGGGGTGGTCACTGAATGGACGGAGGGAT	1104

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RESULT 2
US-11-057-807-35
; Sequence 35, Application US/11057807
; Publication No. US20050136473A1
; GENERAL INFORMATION:
; APPLICANT: Sun, Yongming
; APPLICANT: Recipon, Hervé
; APPLICANT: Salceda, Susana
; APPLICANT: Liu, Chenghua
; APPLICANT: Turner, Leah
; TITLE OF INVENTION: Compositions and Methods Relating to Breast Specific Genes and Pr
; FILE REFERENCE: DX-0247
; CURRENT APPLICATION NUMBER: US/11/057,807
; CURRENT FILING DATE: 2005-02-14
; PRIOR APPLICATION NUMBER: US/10/082,828
; PRIOR FILING DATE: 2002-07-09
; PRIOR APPLICATION NUMBER: US 60/243,805
; PRIOR FILING DATE: 2000-10-27
; NUMBER OF SEQ ID NOS: 266
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 35
; LENGTH: 1104
; TYPE: DNA
; ORGANISM: Homo sapiens
US-11-057-807-35

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Query Match	99.7%	Score 637.4;	DB 24;	Length 1104;
Best Local Similarity	99.8%	Pred. No. 2.4e-194;		
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Qy	61	TCCACCCCTCCACCTATGCCATGTGTTTCCCTTAGCCACTCCCAGCTCCGTCGAGGAAAG	120
Db	526	TCCACCCCTCCACCTATGCCATGTGTTTCCCTTAGCCACTCCCAGCTCCGTCGAGGAAAG	585
Qy	121	GCAGGCTTAACCTAGGTACCGTCTTCCCGACTTTGCTCAATGATAGCTGGGTCTAGC	180
Db	586	GCAGGCTTAACCTAGGTACCGTCTTCCCGACTTTGCTCAATGATAGCTGGGTCTAGC	645
Qy	181	TGGGTTCCAGCCACTTGTAAATGTGGGACATCTCTACCCCACTTTGTAGGTGGAGCAAC	240
Db	646	TGGGTTCCAGCCACTTGTAAATGTGGGACATCTCTACCCCACTTTGTAGGTGGAGCAAC	705
Qy	241	TGCTACAGAGGTAATAATGATTAACTTTTACATTCCATCTTTCTGCTGCCCAAACTTAA	300
Db	706	TGCTACAGAGGTAATAATGATTAACTTTTACATTCCATCTTTCTGCTGCCCAAACTTAA	765
Qy	301	CACGAGGTAATCTGCTTCTAGCAAGTGGTGAAGGTAAGAGAGGCATCTGTATAGGAGGCA	360
Db	766	CACGAGGTAATCTGCTTCTAGCAAGTGGTGAAGGTAAGAGAGGCATCTGTATAGGAGGCA	825
Qy	361	AGAGATCTGAGTCCTTTTGAAGGCCCTATCTCTGCTCTGTATCTCAATTACTGTTCTTCA	420
Db	826	AGAGATCTGAGTCCTTTTGAAGGCCCTATCTCTGCTCTGTATCTCAATTACTGTTCTTCA	885
Qy	421	TTTCAATTAATCTTACTACTATTTCAAGTTCCTTTGATCTTTTCTCTGGGGGCTGCTTT	480
Db	886	TTTGAATTAATCTTACTACTATTTCAAGTTCCTTTGATCTTTTCTCTGGGGGCTGCTTT	945
Qy	481	AGGGTCAGGGAGATTCCAGAACGACACAGAACTTAGGAGGAGCCCTGAGACATGGGGAGTTG	540
Db	946	AGGGTCAGGGAGATTCCAGAACGACACAGAACTTAGGAGGAGCCCTGAGACATGGGGAGTTG	1005
Qy	541	GAGCTGAAGAGGAAATGGCAGGATGAAGAAATTCCTTAGGTAGGAGCTGTGAGGGTGGCT	600
Db	1006	GAGCTGAAGAGGAAATGGCAGGATGAAGAAATTCCTTAGGTAGGAGCTGTGAGGGTGGCT	1065
Qy	601	GGGAGAGGGAGGGGTGGTCA CGAATGGA CGGAGGGAT	639
Db	1066	GGGAGAGGGAGGGGTGGTCA CGAATGGA CGGAGGGAT	1104

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RESULT 3
US-10-082-828A-34
; Sequence 34, Application US/10082828A
; Publication No. US20030175715A1
; GENERAL INFORMATION:
; APPLICANT: Sun, Yongming
; APPLICANT: Recipon, Herve
; APPLICANT: Salceda, Susana
; APPLICANT: Liu, Chenghua
; APPLICANT: Turner, Leah
; TITLE OF INVENTION: Compositions and Methods Relating to Breast Specific Genes and
; FILE REFERENCE: DEX-0247
; CURRENT APPLICATION NUMBER: US/10/082,828A
; CURRENT FILING DATE: 2002-07-09
; PRIOR APPLICATION NUMBER: US 60/243,805
; PRIOR FILING DATE: 2000-10-27
; NUMBER OF SEQ ID NOS: 266
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 34
; LENGTH: 307
; TYPE: DNA
; ORGANISM: Homo sapiens
; FEATURE:
; NAME/KEY: misc feature
; LOCATION: (28)..(28)
; OTHER INFORMATION: n=a, c, g or t
US-10-082-828A-34

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ATTACHMENT B

GenCore version 5.1.6
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OM nucleic - nucleic search, using sw model

Run on: October 14, 2005, 20:43:00 ; Search time 191 Seconds
(without alignments)
6673.610 Million cell updates/sec

Title: US-09-721-183-5
Perfect score: 779
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Scoring table: IDENTITY NUC
Gapop 10.0 , Gapext 1.0

Searched: 1202784 seqs, 818138359 residues

Total number of hits satisfying chosen parameters: 2405568

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Issued Patents NA: *
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2: /cgn2_6/prodata/1/ina/5B_COMB.seq.*
3: /cgn2_6/prodata/1/ina/6A_COMB.seq.*
4: /cgn2_6/prodata/1/ina/6B_COMB.seq.*
5: /cgn2_6/prodata/1/ina/PCUTUS_COMB.seq.*
6: /cgn2_6/prodata/1/ina/backfiles1.seq.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	727	93.3	2030	4	US-09-451-739H-15
2	725.8	93.2	2232	4	US-09-620-405B-491
3	725.8	93.2	2232	4	US-09-834-759-491
4	725.8	93.2	3288	4	US-09-620-405B-490
5	725.8	93.2	3288	4	US-09-834-759-490
6	725.8	93.2	3681	4	US-09-620-405B-463
7	725.8	93.2	3681	4	US-09-433-826B-463
8	725.8	93.2	3681	4	US-09-604-287A-463
9	725.8	93.2	3681	4	US-09-834-759-463
10	725.8	93.2	3681	4	US-09-590-751A-463
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18	723.8	92.9	1337	4	US-09-433-826B-467
19	723.8	92.9	1337	4	US-09-604-287A-467
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21	723.8	92.9	1337	4	US-09-590-751A-467
22	723.8	92.9	1337	4	US-09-551-621-467
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24	723.8	92.9	2307	4	US-09-433-826B-468
25	723.8	92.9	2307	4	US-09-604-287A-468
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27	723.8	92.9	2307	4	US-09-590-751A-468

28	723.8	92.9	2307	4	US-09-551-621-468	Sequence 468, App
29	547.2	70.2	1729	4	US-09-620-405B-466	Sequence 466, App
30	547.2	70.2	1729	4	US-09-433-826B-466	Sequence 466, App
31	547.2	70.2	1729	4	US-09-604-287A-466	Sequence 466, App
32	547.2	70.2	1729	4	US-09-834-759-466	Sequence 466, App
33	547.2	70.2	1729	4	US-09-590-751A-466	Sequence 466, App
34	547.2	70.2	1729	4	US-09-551-621-466	Sequence 466, App
35	414.6	53.2	1665	4	US-09-389-681-178	Sequence 178, App
36	414.6	53.2	1665	4	US-09-620-405B-178	Sequence 178, App
37	414.6	53.2	1665	4	US-09-339-338-178	Sequence 178, App
38	414.6	53.2	1665	4	US-09-433-826B-178	Sequence 178, App
39	414.6	53.2	1665	4	US-09-604-287A-178	Sequence 178, App
40	414.6	53.2	1665	4	US-09-285-480-178	Sequence 178, App
41	414.6	53.2	1665	4	US-09-834-759-178	Sequence 178, App
42	414.6	53.2	1665	4	US-09-590-751A-178	Sequence 178, App
43	414.6	53.2	1665	4	US-09-551-621-178	Sequence 178, App
44	236.6	30.4	1424	4	US-09-620-405B-464	Sequence 464, App
45	236.6	30.4	1424	4	US-09-433-826B-464	Sequence 464, App

ALIGNMENTS

RESULT 1

US-09-451-739H-15

; Sequence 15, Application US/09451739H

; Patent No. 6774226

; GENERAL INFORMATION:

; APPLICANT: Jager, Dirk

; APPLICANT: Scanlan, Matthew

; APPLICANT: Gurs, Ali

; APPLICANT: Jager, Elke

; APPLICANT: Knuth, Alexander

; APPLICANT: Old, Lloyd

; APPLICANT: Chen, Yao-tseng

; TITLE OF INVENTION: Isolated Nucleic Acid Molecules Encoding Cancer Associated Anti-

; FILE REFERENCE: LUD 5615

; CURRENT APPLICATION NUMBER: US/09/451,739H

; CURRENT FILING DATE: 1999-11-30

; NUMBER OF SEQ ID NOS: 19

; SEQ ID NO 15

; LENGTH: 2030

; TYPE: DNA

; ORGANISM: Homo sapiens

; FEATURE:

; NAME/KEY: CDS

; LOCATION: 1628, 1752, 1758, 1769, 1789, 1873, 1908, 1915, 1933, 1970,

; LOCATION: 1976, 2022

; OTHER INFORMATION: unknown nucleotides at positions 1628, 1752, 1758,

; OTHER INFORMATION: 1769, 1789, 1873, 1908, 1915, 1933, 1970, 1976, 2022

US-09-451-739H-15

Query Match

Best Local Similarity 93.3%; Score 727; DB 4; Length 2030;

Matches 733; Conservative 0; Mismatches 10; Indels 0; Gaps 0;

QY 36 CCATTAGCCTCCATTGAAATGCAAAAGCTGTGTTCCAAATAAAGCCTTGGAAATGAAGA 95

Db 124 CTTTCGAGCCTCCATTGAAATGCAAAAGCTGTGTTCCAAATAAAGCCTTGGAAATGAAGA 183

QY 96 ATGAACAACATTTGAGACGATGAGATATCTCCATCAGATCCCAACAAAGGACTATG 155

Db 184 ATGAACAACATTTGAGACGATGAGATATCTCCATCAGATCCCAACAAAGGACTATG 243

QY 156 AAGAAGTTCTTGGGATCTGAGAGTCTCTGTGAGACTGTTTTCACAGAAGGATGTGTGTT 215

Db 244 AAGAAGTTCTTGGGATCTGAGAGTCTCTGTGAGACTGTTTTCACAGAAGGATGTGTGTT 303

QY 216 TACCCAAGGCTACACATCAAAAGAAATAGATAAAATAATGAAATTTAGAAAGGCTCTC 275

Db 304 TACCCAAGGCTACACATCAAAAGAAATAGATAAAATAATGAAATTTAGAAAGGCTCTC 363

QY 276 CTGTTAAAGTGTCTCTCTGAGGCTAACTGCGGATGAAGTTTCTATTCCAACTAAAG 335
DB 364 CTGATAATGATGTGTTTCTGAGGCTCCCTGCGAATGAAGTTTCTATTCCAACTAAAG 423
QY 336 CCTTAGAATTGATGAGCATGCAAACTTTCAAAGCAGAGCCTCCCGAGAGCCATCTGCCT 395
DB 424 CCTTAGAATTGATGAGCATGCAAACTTTCAAAGCAGAGCCTCCCGAGAGCCATCTGCCT 483
QY 396 TCAGAGCTGCAATGAAATGCAAAAGTCTGTTCCAAATAAAGCCTTGGAAATTGAAGAATG 455
DB 484 TCAGAGCTGCAATGAAATGCAAAAGTCTGTTCCAAATAAAGCCTTGGAAATTGAAGAATG 543
QY 456 AACAAACATTGAGAGCAGATCAGATGTTCCCTTCAGAAATCAAAACAAAGAGGTTGAAG 515
DB 544 AACAAACATTGAGAGCAGATCAGATGTTCCCTTCAGAAATCAAAACAAAGAGGTTGAAG 603
QY 516 AAAATCTTGGGATCTGAGAGTCTCCGTGAGACTGTTTCACAGAAAGGATGTGTGTAC 575
DB 604 AAAATCTTGGGATCTGAGAGTCTCCGTGAGACTGTTTCACAGAAAGGATGTGTGTAC 663
QY 576 CCAAGGCTACACATCAAAAGAAATGGAATAAATAGTGGAATAATTAGAAATTCAACTA 635
DB 664 CCAAGGCTACACATCAAAAGAAATGGAATAAATAGTGGAATAATTAGAAATTCAACTA 723
QY 636 GCGTATCAAAATCTTGGATACAGTTCATCTTGTGAAGAGCAAGGAACTTCAAAAG 695
DB 724 GCGTATCAAAATCTTGGATACAGTTCATCTTGTGAAGAGCAAGGAACTTCAAAAG 783
QY 696 ATCACTGTGAACACGTCACAGGAAATGGAACAAATGAAAGAAAGATTTTGTGTACTGA 755
DB 784 ATCACTGTGAACACGTCACAGGAAATGGAACAAATGAAAGAAAGATTTTGTGTACTGA 843
QY 756 AAAAGAACTGTCAAGAGCAAAA 778
DB 844 AAAAGAACTGTCAAGAGCAAAA 866

RESULT 2

US-09-620-405B-491
; Sequence 491, Application US/09620405B
; Patent No. 6528054
; GENERAL INFORMATION:

; APPLICANT: Jiang, Yugu
; APPLICANT: Dillon, Davin C.
; APPLICANT: Mitcham, Jennifer L.
; APPLICANT: Xu, Jiangchun
; APPLICANT: Harlocker, Susan L.
; APPLICANT: Hepler, William T.
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY AND
; FILE REFERENCE: 210121.470C8
; CURRENT APPLICATION NUMBER: US/09/620.405B
; CURRENT FILING DATE: 2000-07-20
; NUMBER OF SEQ ID NOS: 495
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 491

; LENGTH: 2232
; TYPE: DNA
; ORGANISM: Homo sapiens

US-09-620-405B-491

Query Match 93.2%; Score 725.8; DB 4; Length 2232;

Best Local Similarity 98.3%; Pred. No. 2.8e-185;

Matches 730; Conservative 3; Mismatches 10; Indels 0; Gaps 0;

QY 36 CCATTTAGCCTGCCATGAAATGCAAAAGTCTGTTCCAAATAAAGCCTTGGAAATTGAAGA 95

DB 1373 CCTTCGAGCCTGCCATGAAATGCAAAAGTCTGTTCCAAATAAAGCCTTGGAAATTGAAGA 1432

QY 96 ATGAACAAACATTGAGAGCAGATGAGATCTCCCATCAGAAATCCAAACAAAGACTATG 155

DB 1433 ATGAACAAACATTGAGAGCAGATGAGATCTCCCATCAGAAATCCAAACAAAGACTATG 1492

QY 156 AAGAAAGTCTTGGATTTCTGAGATCTCTGTGAGACTGTTTTCACAGAAAGGATGTGTGT 215
DB 1493 AAGAAAGTCTTGGATTTCTGAGATCTCTGTGAGACTGTTTTCACAGAAAGGATGTGTGT 1552
QY 216 TACCCAGGCTACACATCAAAAGAAATAGATAAATAAATGGAATAATTAGAAAGGTTCTC 275
DB 1553 TACCCAGGCTACACATCAAAAGAAATAGATAAATAAATGGAATAATTAGAAAGGTTCTC 1612
QY 276 CTGTTAAAGTGTCTTCTGAGGCTTAATCGGGAATGAAGTTTCTATTCCAACTAAAG 335
DB 1613 CTGTTAAAGTGTCTTCTGAGGCTTAATCGGGAATGAAGTTTCTATTCCAACTAAAG 1672
QY 336 CCTTAGAATTGATGAGCATGCAAACTTTCAAAGCAGAGCCTCCCGAGAGCCATCTGCCT 395
DB 1673 CCTTAGAATTGATGAGCATGCAAACTTTCAAAGCAGAGCCTCCCGAGAGCCATCTGCCT 1732
QY 396 TCAGAGCCTGCCATGAAATGCAAAAGTCTGTTCCAAATAAAGCCTTGGAAATTGAAGAATG 455
DB 1733 TCAGAGCCTGCCATGAAATGCAAAAGTCTGTTCCAAATAAAGCCTTGGAAATTGAAGAATG 1792
QY 456 AACAAACATTGAGAGCAGATCAGATGTTCCCTTCAGAAATCAAAACAAAGAGGTTGAAG 515
DB 1793 AACAAACATTGAGAGCAGATCAGATGTTCCCTTCAGAAATCAAAACAAAGAGGTTGAAG 1852
QY 516 AAAATCTTGGGATCTGAGAGTCTCCGTGAGACTGTTTCACAGAAAGGATGTGTGTAC 575
DB 1853 AAAATCTTGGGATCTGAGAGTCTCCGTGAGACTGTTTCACAGAAAGGATGTGTGTAC 1912
QY 576 CCAAGGCTACACATCAAAAGAAATGGAATAAATAGTGGAATAATTAGAAATTCAACTA 635
DB 1913 CCAAGGCTACACATCAAAAGAAATGGAATAAATAGTGGAATAATTAGAAATTCAACTA 1972
QY 636 GCGTATCAAAATCTTGGATACAGTTCATCTTGTGAAGAGCAAGGAACTTCAAAAG 695
DB 1973 GCGTATCAAAATCTTGGATACAGTTCATCTTGTGAAGAGCAAGGAACTTCAAAAG 2032
QY 696 ATCACTGTGAACACGTCACAGGAAATGGAACAAATGAAAGAAAGATTTTGTGTACTGA 755
DB 2033 ATCACTGTGAACACGTCACAGGAAATGGAACAAATGAAAGAAAGATTTTGTGTACTGA 2092
QY 756 AAAAGAACTGTCAAGAGCAAAA 778
DB 2093 AAAAGAACTGTCAAGAGCAAAA 2115

RESULT 3

US-09-834-759-491
; Sequence 491, Application US/09834759
; Patent No. 6680197
; GENERAL INFORMATION:

; APPLICANT: Jiang, Yugu
; APPLICANT: Dillon, Davin C.
; APPLICANT: Mitcham, Jennifer L.
; APPLICANT: Xu, Jiangchun
; APPLICANT: Harlocker, Susan L.
; APPLICANT: Hepler, William T.
; APPLICANT: Henderson, Robert A.
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY AND
; FILE REFERENCE: 210121.470C9
; CURRENT APPLICATION NUMBER: US/09/834.759
; CURRENT FILING DATE: 2001-04-13
; NUMBER OF SEQ ID NOS: 547
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 491

; LENGTH: 2232

; TYPE: DNA

; ORGANISM: Homo sapiens

US-09-834-759-491

Query Match 93.2%; Score 725.8; DB 4; Length 2232;

Best Local Similarity 98.3%; Pred. No. 2.8e-185;

Matches 730; Conservative 3; Mismatches 10; Indels 0; Gaps 0;

QY 93.2%; Score 725.8; DB 4; Length 2232;

Best Local Similarity 98.3%; Pred. No. 2.8e-185;

Matches 730; Conservative 3; Mismatches 10; Indels 0; Gaps 0;